

REMARKS/ARGUMENTS

The Applicants thank the Examiner for providing an English translation of the Japanese reference JP60-219,637 on 11/10/2003.

Claims 1-14 and 16-29 remain in this application. Claim 15 has been withdrawn from this application.

Claims 1, 8, 13, 23 and 28 have been amended to remove the limitation “burnishing.”

Claim Rejection Under 35 U.S.C. 102(b)

The Examiner states in Paragraph 4 of the Office Action that “the rejection of claims 1, 3-8, 10-12, 16, 18-23 and 25-28 made in the previous Office Action under 35 USC 102(b) is maintained.” In the previous response to this office action the Applicant argued that the claimed invention was not anticipated by JP60-219,637. However, the Examiner was not persuaded by the Applicant’s arguments and stated:

The Examiner disagrees. According to the specification (the paragraph bridging pages 2 and 3 the term “burnishing” means rubbing or polishing the surface by smoothing out irregularities. The term also includes ablation vaporization and breaking of irregularities into a smaller pieces.

It means that the disclosed melting and reducing meet the limitation of the term burnishing, and the apparatus of JP 60-219,637 is capable of performing the claimed function.

It is also noted that melting of the irregularities would smooth them also would break them.

Moreover, it is noted that the claims do not exclude any additional steps or means.

In order to establish anticipation, the Examiner must show that “Under 35 U.S.C. § 102, anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference” *Akzo N.V. v. U.S. Int’l Trade Comm’n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987). **Nowhere** does JP60-219,637 disclose each and every element of the claimed invention. In particular JP60-219,637 does not disclose energizing the laser to thereby impart an energy source to reduce the irregularity to a degree less than a predetermined amount, as claimed in independent claims 1, 8, 13, 16, 23 and 28.

It is clear from the translation of the JP 60-219,637 reference provided by the Examiner that JP60-219,637 teaches 1) using the power and time to only melt and soften the projection, not to reduce the irregularity, and 2) that the actual reduction of the irregularity is done with the burnish head 3, as argued by the Applicants in the previous response to office action. The Examiner has used the Applicant’s definition of the word “burnishing” to expand the function of the apparatus in JP 60-219,637 beyond its teachings. The Examiner has used external references (ie. the Applicant’s own specification) to expand the meaning of “burnishing” as used in JP60-219,637 and produce a 102(b) rejection. This is impermissible because extrinsic evidence may be used to explain but **not** expand the meaning of the terms and phrases used in the reference relied upon as anticipatory of the claimed subject matter. *In re Baxter Travenol Lab.*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991). See MPEP 2131.01.

JP 60-219,637 clearly teaches that the laser is used to fuse and soften a protrusion and then the burnishing head collides with the softened protrusion removing it (in page 4 lines 8-13 of the translation provided by the Examiner):

When argon laser beam 6 is radiated onto the surface of magnetic disk 1 via plano-convex lens 4 while burnishing head 3 equipped with plano-convex lens 4 is made to float on the surface of the rotating magnetic disk 1 at a value smaller than the height of fine protrusions 2, fine protrusions 2 are fused and softened. The soft softened fine protrusions are collided against the slider surface of burnished head 3 and then removed. Subsequently, the surface of magnetic disk 1 is smoothened.

JP 60-219,637 alone does not anticipate the claimed invention because it does not teach, mention or suggest energizing the laser to thereby impart an energy source to reduce the irregularity to a degree less than a predetermined amount, as claimed in independent claims 1, 8, 13, 16, 23 and 28. The Examiners assertion that the word “burnishing” covers the process is an impermissible broad reading of the definition in the specification. Nevertheless the Applicants have amended claim 1 so that a “laser” rather than a “burnishing laser” is used, thus removing any misinterpretation the Examiner may have of the claimed invention.

In view of this amendment the Applicants respectfully request that the Examiner reconsider and withdraw his rejection of claims 1, 3-8, 10-12, 16, 18-23 and 25-28 under 35 USC 102(b).

Claim Rejection Under 35 U.S.C. 103(a)

In paragraph 6 of the Office Action, the Examiner rejected claims 2, 9, 13, 14, 17, 24 and 29 under 35 U.S.C. 103(a) as being unpatentable over JP 60-219,637 in view of Kuo et, Baumgart et al and Engelsberg. The Examiner argues that “JP 60-219,637 teaches a method and apparatus for cleaning and smoothing a surface of magnetic disks. The method comprises directing laser light to irregularities on the surface to reduce them to a predetermined amount. The document discloses the size of the irregularities prior to and after the process. It means that the step of detecting and means for detecting are disclosed by the document.” The Applicants vigorously traverse.

In order to establish *prima facie* obviousness of a claimed invention three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. See MPEP 2143. The Applicants respectfully submit that the Examiner has not satisfied all three criteria outlined in MPEP 2143.

First, the prior art reference JP 60-219,637 (or references when combined) does not teach or suggest all the claim limitations. In particular, the limitation of energizing the laser to thereby impart an energy source to reduce the irregularity to a degree less

than a predetermined amount is not disclosed in any of the references. The Examiner states "JP 60-219,637 teaches a method and apparatus for cleaning and smothering a surface of magnetic disks. The method comprises directing laser light to irregularities on the surface to reduce them to a predetermined amount." However, as previously discussed, the JP 60-219,637 reference teaches that the laser is used to fuse and soften a protrusion and then the burnishing head collides with the softened protrusion removing it (in page 4 lines 8-13 of the translation provided by the Examiner). None of the other references cure this defect and the Examiner has not indicated that they do.

Second, the Examiner states, "the document discloses the size of the irregularities prior to and after the process. It means that the step of detecting and means for detecting are disclosed by the document." The Applicants respectfully traverse. JP 60-219,637 teaches on page 4 line 15 – 20 of the translation provided by the Examiner that:

According to a testing, the height of the fine protrusions on the disk surface before a burnishing is applied is 0.1 to 0.25 um. After the burnishing has been applied, the height thereof becomes 0.05 um or lower. The minimum floating height becomes 0.1 um or lower. As for the method of the invention, the fine protrusion on the disk surface alone are removed. The non-fine protrusion surface part of the disk is not burnished. Thus, ununiformity will not occur to the thickness of the protective film of the disk. As a consequence, a magnetic disk with high abrasion resistance and high corrosion resistance is achieved.

JP 60-219,637 does disclose the size of an irregularity prior to and after the process but only gives an average measurement of all the irregularities both before and after the

burnishing process. The Applicants acknowledge that the reference JP 60-219,637 is not perfectly clear that the measurement of irregularities on the disk refers to an average measurement rather than the measurement of a single irregularity. However, when the entire reference is considered as a whole the implication is that JP60-219,637 only reveals average measurements because it constantly refers to irregularities in the plural sense implying the measurements are done on more than one irregularity. This is different than the claimed invention which subjects the surface to a detector for sensing the surface for an irregularity in the smoothness of the surface.

Third, the Examiner states "the document is silent regarding whether or not the used laser is a pulsed laser. However, the use of pulsed lasers was conventional for cleaning and modification as evidenced by Kuo et al, Baumgart et al, and Engelsberg." Further in paragraph 10, the Examiner rejected claims 13, 14 and 29 under 35 U.S.C. 103(a) as being unpatentable over JP 60-219,637. The Examiner argued that JP 60-219,637 "is silent regarding the detailed construction of the focusing device and thereby fails to specifically recite the use of mirrors and optical fibers. However, the use of mirrors and optical fibers was notoriously well-known in the art to transfer light beams (including laser light beams) to the desired location." Since these references do not disclose energizing the laser to thereby impart an energy source to reduce the irregularity to a degree less than a predetermined amount, as claimed in independent claims 1, 8, 13, 16, 23 and 28, the Applicants respectfully request that the Examiner reject his rejection under 35 USC 103.

In view of this amendment and remarks the Applicants respectfully request that the Examiner reconsider and withdraw his rejection of claims 2, 9, 13, 14, 17, 24, and 29 under 35 USC 103.

Double Patenting Rejection

The Applicant request that the Examiner postpone his Double Patenting rejection until the scope of the claims is finalized. Since the claims are being amended through the prosecution process it is possible that the claims could be amended sufficiently that a double patenting rejection is not appropriate and a terminal disclaimer is not needed. Once the scope of the claims is finalized and if a terminal disclaimer is needed to overcome the non-statutory double patenting rejection, the Applicants will file the terminal disclaimer at that time.

Conclusion

In light of the above remarks and amendments, this application should be considered in condition for allowance and the case passed to issue. If there are any questions regarding these remarks or the application in general, a telephone call to the undersigned would be appreciated to expedite prosecution of the application.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 19-1036.** Please credit any excess fees to such deposit account.

Respectfully submitted,
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(Assignee of Entire Interest)

12/5/2003
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